Amendments to the Specification:

Please insert the following text at page 4, line 25, prior to the "Disclosure of the Invention:"

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 shows the result of flow cytometry, illustrating that human IgG antibody does not bind to L1210 cells expressing human IAP (hIAP/L1210).

FIG. 2 shows the result of flow cytometry, illustrating that the chimera MABL-1 antibody specifically binds to L1210 cells expressing human IAP (hIAP/L1210).

FIG. 3 shows the result of flow cytometry, illustrating that the chimera MABL-2 antibody specifically binds to L1210 cells expressing human IAP (hIAP/L1210).

FIG. 4 schematically illustrates the process for producing the single chain Fv according to the present invention.

FIG. 5 illustrates a structure of an expression plasmid which can be used to express a DNA encoding the single chain Fv of the invention in E. coli.

FIG. 6 illustrates a structure of an expression plasmid which is used to express a DNA encoding the single chain Fv of the invention in mammalian cells.

FIG. 7 shows a photograph showing the result of western blotting in Example 5.4.

FIG. 8 shows the result of flow cytometry, illustrating that an antibody in the culture supernatant of pCHO1/COS7 cell as a control does not bind to pCOS1/L1210 cell as a control.

FIG. 9 shows the result of flow cytometry, illustrating that an antibody in the culture

supernatant of MABL2-scFv/COS7 cells does not bind to pCOS1/L1210 cells as a control.

FIG. 10 shows the result of flow cytometry, illustrating that an antibody in the culture supernatant of pCOS1/COS7 cells as a control does not bind to hIAP/L1210 cells.

FIG. 11 shows the result of flow cytometry, illustrating that an antibody in the culture supernatant of MABL2-scFv/COS7 cells specifically binds to hIAP/L1210 cells.

FIG. 12 shows the result of the competitive ELISA in Example 5.6.

FIG. 13 shows the results of the apoptosis-inducing effect in Example 5.7.

FIG. 14 shows the results of the apoptosis-inducing effect in Example 5.7, illustrating that the antibody in the culture supernatant of MABL2-scFv/COS7 cells does not induce apoptosis of pCOS1/L1210 cells as a control.

FIG. 15 shows the results of the apoptosis-inducing effect in Example 5.7, illustrating that the antibody in the culture supernatant of pCHO1/COS7 cells as a control does not induce apoptosis of hIAP/L1210 cells.

FIG. 16 shows the results of the apoptosis-inducing effect in Example 5.7, illustrating that the antibody in the culture supernatant of MABL2-scFv/COS7 cells specifically induces apoptosis of hIAP/L1210 cells.

FIG. 17 shows the results of the apoptosis-inducing effect in Example 5.7, illustrating that the antibody in the culture supernatant of pCHO1/COS7 cells as a control does not induce apoptosis of CCRF-CEM cells.

FIG. 18 shows the results of the apoptosis-inducing effect in Example 5.7, illustrating that the antibody in the culture supernatant of MABL2-scFv/COS7 cells specifically induces apoptosis of CCRF-CEM cells.

FIG. 19 shows the chromatogram obtained in the purification of the single chain Fv derived form the antibody MABL-2 produced by the CHO cells in Example 5.9.

FIG. 20 shows the results of purification by gel filtration of fraction A and fraction B obtained in Example 5.9.

FIG. 21 is the analysis on SDS-PAGE of the fractions obtained in the purification of the single chain Fv derived from the antibody MABL-2 produced by the CHO cells in Example 5.9.

FIG. 22 shows the results of analysis of fractions AI and BI obtained by gel filtration in the purification of the single chain Fv derived from the antibody MABL-2 produced by the CHO cells.

FIG. 23 illustrates a structure of an expression plasmid which can be used to express a DNA encoding the single chain Fv of the invention in E. coli.

FIG. 24 shows the results of purification on the gel filtration column of crude products of the single chain Fv polypeptide derived from the antibody MABL-2 produced by E. coli obtained in Example 5.12.

FIG. 25 shows the results of the apoptosis-inducing effect in Example 5.13, illustrating that mouse IgG antibody as a control does not induce apoptosis of hIAP/L1210 cells.

FIG. 26 shows the results of the apoptosis-inducing effect in Example 5.13, illustrating that the dimer of MABL2-scFv produced by the CHO cells remarkably induces apoptosis of hIAP/L1210 cells.

FIG. 27 shows the results of the apoptosis-inducing effect in Example 5.13, illustrating that the dimer of MABL2-scFv produced by E. coli remarkably induces apoptosis of hIAP/L1210

cells.

FIG. 28 shows the results of the apoptosis-inducing effect in Example 5.13, illustrating that apoptosis induction to hIAP/L1210 cells by the MABL2-scFv monomer produced by the CHO cells is the same level as that of the control.

FIG. 29 shows the results of the apoptosis-inducing effect in Example 5.13, illustrating that apoptosis induction to hIAP/L1210 cells of the MABL2-scFv monomer produced by E. coli is the same level as that of control.

FIG. 30 shows the results of the apoptosis-inducing effect in Example 5.13, illustrating that mouse IgG antibody used as a control does not induce apoptosis of hIAP/L1210 cells even when anti-FLAG antibody is added.

FIG. 31 shows the results of the apoptosis-inducing effect in Example 5.13, illustrating that MABL2-scFv monomer produced by the CHO cells remarkably induces apoptosis of hIAP/L1210 cells when anti-FLAG antibody is added.

FIG. 32 shows the results of quantitative measurement of human IgG in the serum of a human myeloma cell line KPMM2-transplanted mouse, indicating amounts of human IgG produced by the human myeloma cells in the mouse.

FIG. 33 shows the survival time of the mouse after the transplantation of tumor, illustrating that the scFv/CHO dimer-administered group elongated remarkably the survival time.

FIG. 34 illustrates a structure of an expression plasmid which expresses a modified antibody [sc(Fv).sub.2] comprising two H chain V regions and two L chain V regions derived from the antibody MABL-2.

FIG. 35 illustrates a structure of a plasmid which expresses a scFv (HL type) wherein the V regions are linked in the manner of [H chain]-[L chain] without a peptide linker.

FIG. 36 illustrates a structure of the HL-type polypeptide and amino acid sequences of peptide linkers.

FIG. 37 illustrates a structure of a plasmid which expresses a scFv (LH type) wherein the V regions are linked in the manner of [L chain]-[H chain] without a peptide linker.

FIG. 38 illustrates a structure of the LH-type polypeptide and amino acid sequences of peptide linkers.

FIG. 39 shows the results of the western blotting in Example 6.4, illustrating that the modified antibody sc(FV)2 comprising two H chain V regions and two L chain V regions, and the MABL2-scFv having peptide linkers with different length are expressed.

FIGS. 40a and 40b show the results of flow cytometry using the culture supernatant of COS7 cells prepared in Example 6.3 (1).

FIG. 41 shows the results of the apoptosis-inducing effect in Example 6.6.

FIG. 42 shows the results of the evaluation of antigen binding capacity in Example 6.10.

FIG. 43 shows the results of the in vitro apoptosis-inducing effect in Example 6.11.

FIG. 44 shows the results of the quantitative measurement of M protein produced by a human myeloma cell line KPMM2 in the serum of the human myeloma cell-transplanted mouse.
FIG. 45 shows the survival time (days) of mice after-the transplantation of tumor.

FIG. 46 shows the survival time (days) of mice after the transplantation of tumor.

FIG. 47 is a scheme showing the method for constructing DNA fragment encoding the reconstructed 12B5 single chain Fv containing the linker sequence consisting of 15 amino acids and the structure thereof.

FIG. 48 shows the purification result of each 12B5 single chain Fv by gel filtration obtained in Example 7. 5 (1).

FIG. 49 shows the analytical result of each fraction A and B by SDS-PAGE performed in Example 7. 5 (2).

FIG. 50 shows the analytical result of each fraction A and B by Superdex200 column performed in Example 7. 5 (2).

FIG. 51 shows the measurement result of the TPO-like agonist activity of sc12B5 and antibody 12B5 (IgG, Fab).

FIG. 52 shows the measurement result of TOP-like agonist activity of sc12B5 monomer and dimer.